

**Wildlife Quiet Areas (WQAs)
and Habitat Linkages
Report ***

for

FOREST PLAN REVISION

on the

Apache-Sitgreaves National Forests (ASNFs)

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Updated Post 2011 Wallow Fire

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* This is a Forest Plan Revision document that details the history and process used to establish and evaluate WQAs on the ASNFs and document the cooperative Habitat Linkages effort conducted with the Arizona Game and Fish Department.

WILDLIFE QUIET AREAS

Background

Beginning in the late 1970s, the Arizona Game and Fish Department (AZGFD) became interested in the effects of motorized vehicle use on game populations (Neff 1977), especially given the growth of forest visitor use facilitated in part by the increased use of recreational vehicles.¹ In 1983, the ASNFs and AZGFD began to collaboratively plan for a habitat management program aimed at reducing impacts, signing a supplement to the USFS R3 Regional memorandum of understanding to establish “wildlife habitat areas.” These areas were to improve the quality of habitat for wildlife as well as help protect soil, vegetation, and water resources. The expected benefits and objectives were:

- Reduce wildlife disturbance and stress, resulting in healthier animals and populations.
- Allow for the more effective use of all available and suitable wildlife habitats.
- Increase the value of the outdoor experience.
- Greatly improve the hunting experience.
- Lengthen the time big game animals stay in the area(s).
- Protect vegetation to help preserve soil and water resources.
- Reduce road maintenance costs.

The method to accomplish the above benefits and objectives was to provide wildlife habitat free from motorized vehicle use and the associated disturbances and impacts. Key habitats areas were those used for overwintering, or for foraging, nesting and reproductive activities.² These areas can compensate, and thereby benefit, wildlife when adjacent areas have either inadequate or increasingly impacted habitat components or conditions that include: limited forage and hiding cover, high open road densities, and frequent motorized disturbances (ASNFs and AZGFD, 1991). Each key habitat area was identified and designated to encompass or address specific species’ (or multiple species’) needs. A secondary objective and benefit was the protection and improvement of underlying habitat conditions, including the vegetation, soil, and water resources of the areas. Wildlife habitat areas could be closed year-long or a particular area could be closed on a seasonal basis, depending upon wildlife need and management objectives. In all cases, public access would continue to be provided with hiking, horseback riding and bicycling³ being considered nonmotorized uses compatible within these habitat areas.

This collaborative and innovative wildlife habitat management approach was supported by direction outlined in the 1987 forest plan; the plan even included an activity code for “Habitat Access Controlled by Closure” (C15). Plan direction includes:

- Provide for habitat “effectiveness” defined as freedom from human disturbance of wildlife (p. 208).
- Implement ORV [off-road vehicle] closures where substantial adverse effects to soils, water quality, wildlife breeding areas, winter big game ranges, key wildlife areas, and areas providing essential wildlife requirements (p. 34).
- [C]onsider management of off-road and off-trail use by motorized vehicles with the objective of... eliminating wildlife harassment and resource damage (p. 34).

¹ Sales of all-terrain vehicles in Arizona alone jumped substantially between 1995 and 2000 and more than half of Arizonans participated in four-wheel driving, and about one in four participated in ATV vehicle use at that time (Forest Service, 2003).

² For example: a) the late winter and spring period when animals are in their poorest physiological condition and when females of many species are in late gestation, b) nesting when eggs must be continually attended, and c) birthing periods when young are most vulnerable and need protection by mothers.

³ Bicycling, unless otherwise prohibited.

- Provide a transportation system that is manageable including seasonal and special closures (p. 17).
- Emphasize road management in areas where resource/wildlife protection is the dominant [direction] (p. 86).
- Increase opportunities for wildlife...oriented recreation opportunities (p. 15).
- Allow area closures to protect habitat of listed, sensitive or proposed T&E species (p. 60).
- Special orders implementing such closures are administrative orders restricting either the location, timing, or type of use in a specified area (p. 203).

Both agencies conducted public outreach including public meetings and direct contact with hunters, outfitter/guides and other forest users.⁴ Public response was overwhelmingly in favor of the program (ASNFs and AZGFD, 1991). Some examples of support include: hunters who seek to pursue wildlife on foot or horseback in an area closed to motorized vehicles (and thus free from motorized vehicle influences upon game/wildlife species), photographers, wildlife viewers, and other outdoor recreationists who are able to see a greater abundance of wildlife, including birds, throughout the year in these areas.

One concern raised was forest visitors who may not be able to physically walk through these areas. However, in total, only a small percent of the forest is closed to motorized vehicle use for the purpose of enhancing wildlife habitat and other means of travel such as horseback use continues to be allowed. Furthermore, most of these areas are bounded by drivable (open) roads which afford direct access to and along these areas for visitors unable to walk.⁵ In addition, many habitat areas do not require walking more than a mile or two from an accessible road open to motorized travel, with many requiring much less.

In 1985, the first five areas were established by Forest special order⁶ and were called “wildlife quiet areas” (WQAs). Initial thinking was that the location of WQAs would be rotated across the landscape. In 1988 and 1990, WQAs and associated management objectives were evaluated. Findings include ongoing public support, increased use of the areas by big game and other wildlife species, and improvement in vegetation resources (B. Vahle, 2009). Grazing permittees, too, were experiencing fewer people-related problems (e.g., broken fences). Regarding rotation of WQAs, it was realized that re-signing new area boundaries every few years would be cost prohibitive. In addition, State game managers and forest biologists were observing greater affinity (numbers and amount of use) and fidelity toward the areas by wildlife, especially big game and other large mammals.

In 1991, a pamphlet entitled “Quiet Places...Quiet Times on the ASNFs” was published about the history and rationale for WQAs on the ASNFs (ASNFs and AZGFD, 1991). In addition, starting in 1991, the ASNFs’ wildlife and fish program incorporated the WQAs into its annual program goals. The WQA program has been monitored and evaluated for effectiveness over the years. Some areas were dropped, others added, and some boundaries adjusted, all implemented via Forest special order. If an area was found, after designation, to be subsequently unnecessary or the expected wildlife benefit or management objective did not materialize, it was dropped (e.g., Swale WQA). Alternatively, new areas have been analyzed and designated during other planning processes, such as timber sales, where a need for wildlife habitat enhancement or habitat compensation was identified (e.g., Open Draw and Upper Coyote Creek WQAs).

⁴ Public scoping and mailing list, hunter notification, and news release can be found in the Supervisor’s Office under Special Order 01-402 filed at 1010 Laws, Regulations & Orders file for Motor Vehicle Restriction.

⁵ Motor vehicle use within WQAs has been approved by District Rangers on a case-by-case basis, e.g., where a licensed handicapped hunter shot a big game animal that then moved into one of the wildlife areas and died, such hunters have been authorized to drive into the area to retrieve game.

⁶ The original special order number was 01-273; it was replaced in 2003 by special order number 01-402.

Current Status of WQAs

Today, this innovative and successful wildlife habitat program continues. WQA boundaries are signed and special orders are posted. Information about history and wildlife using the areas is posted or available at District offices. WQAs do not exclude motorized use for approved or emergency activities. These include any uses authorized by permit such as public utilities, private water transmission lines, range developments, etc. Forest administrative activities and projects (e.g., thinning) take place within WQAs, incorporating the intent and objectives of these areas.

WQAs and Similarly Managed Areas on the ASNFs as of 2010

Name	Ranger District	Acres ⁷	Comment
--WQAs currently under Special Order--			
Beaver Turkey Ridge	Black Mesa	3,295	Long term WQA
Hulsey Bench	Alpine	3,459	Long term WQA
Middle Mountain	Alpine	3,629	Long term WQA
Open Draw	Alpine	2,499	Long term WQA
St. Peters Dome	Springerville	5,850	Long term WQA
Upper Coyote	Alpine	829	Long term WQA
Willow Springs-Horse Trap	Black Mesa	8,690	Long term WQA
Woolhouse	Lakeside	17,245	Long term WQA
<i>Acres under WQA Special Order and % of Forests</i>	<i>Number of WQAs = 8</i>	<i>45,506 2.2%</i>	
--Other areas currently functioning similarly to WQAs--			
Carr Lake	Black Mesa	2,196	Currently part of Rim Lakes Recr Area & mg'd as defacto WQA
Palomino	Black Mesa	8,028	Currently part of Rim Lakes Recr Area & mg'd as defacto WQA
Hidden Lake	Springerville	3,227	Currently functioning as defacto WQA
<i>Total acres currently functioning as WQA and % of Forests</i>		<i>58,947 2.8%</i>	

Public Input for Forest Plan Revision

In addition to public comment about forest planning, the ASNFs sought out those persons and groups with further wildlife interest or knowledge per NFMA and Regional Planning direction (Forest Service, 2010). Between 2007 and 2011, these individuals or groups provided input to forest planning specifically regarding the needs of wildlife and their habitat. ASNFs planning held a number of meetings with what was called the "wildlife discussion group" to share how wildlife are considered and analyzed under the planning rule, and to obtain information, expertise, concerns, and ideas from those participating. Discussion also occurred via phone and email.

The greatest general concern with participants as the draft plan was developed and shared was the lack of any plan emphasis on wildlife, especially given ASNFs species diversity, uniqueness, and the threats to them. They suggested the plan include some sort of focus on wildlife and their habitat. The group felt the forest plan should also highlight the substantial contribution of wildlife to recreation and local community economics.⁸ Some of the main specific concerns expressed were:

- 1) the wildlife need for secure areas free from the most disturbing human influences such

⁷ Minor acreage adjustments in 2009: Middle Mountain less 8 acres due to exclusion of FR 37C; Hulsey bench less 10 acres due to Community-Forest Intermix management area; and Woolhouse less 51 acres due to removal of a shooting range from it.

⁸ The value of wildlife for recreation and the economy is covered under the Recreation Specialist Report for forest planning.

- as motorized traffic,
- 2) reduced human-caused stress upon life cycle needs (breeding, rearing) and normal wildlife population dynamics (predator/prey interactions), and
 - 3) connectivity of habitat across the landscape, including linkages across habitat barriers (roads, fences, etc.); for more on linkages, see Appendix A.

Some of the participants had also worked with the Coconino and Kaibab National Forests on their planning wildlife groups. These individuals saw a strong need for connectivity between these two forests and the large Gila National Forest to the east. The ASNFs provides this connectivity. However, the limited geographic extent of habitat across the Mogollon Rim⁹ and growing human use and development there represents an important connectivity concern.

The discussions included the following individuals or group member:

Southwest Joint Wildlife
White Mountain Audubon Society
The Nature Conservancy
Grand Canyon Council (also shared NAU researchers' input)
Sky Island Alliance
The Wildlife Society - Arizona
Center for Biological Diversity
Retired Arizona state biologists
Retired university professor
College masters student
Interested local individuals
Outfitter/guide for wildlife and ecology tours on national forests

Recent Evaluation and Benefits

The effectiveness of the WQA program continues to be evaluated periodically by the ASNFs, AGFD and others with wildlife interests; see Appendix B.

In 2009, ASNFs biologists evaluated the need for and effectiveness of WQAs. Given the life of the program, replacement of boundary and other signs are needed for some areas. Additional new WQAs were identified as useful to accomplishing the benefits and objectives of the program; in one instance, over 50 air miles separated nearest WQAs on the Sitgreaves side of the Forest. In 2004, AGFD began a long term research project looking at wildlife use in wildland-urban interface areas, which included some WQAs. This research and observations by Forest and AGFD biologists and wildlife managers have noted the on-going benefits of WQAs for wildlife, people, and other resources as follows:

- Improved wildlife population recruitment (more effective habitat).
- More acres of available and suitable habitat are used (more habitat).
- Peaceful nature viewing and greater chance of observing and photographing wildlife.
- Increased quality of the non-motorized hunt experience and, likely, hunter success (supported by ongoing hunter input).
- Healing of road related erosion and reduced user-created tracks.
- Improvement in soil and vegetation (improved habitat quality).

Forest and state biologist believe these benefits are likely the function of:

- Wildlife knowledge of, and site fidelity to, long-term security (core habitat) areas.

⁹ At the narrowest, the ASNFs is only about 7 miles across, north to south, in the vicinity of Lakeside, AZ.

- Improved (more natural) predator prey functions (reduced human related disturbance to both predator and prey).
- Secure areas helping to provide habitat linkages across open, heavily human-utilized and managed areas.

There are additional benefits of having designated WQAs across the ASNFs. They provide a contextual framework for managing wildlife on a landscape scale providing longevity and continuity that simply closing or decommissioning roads does not provide. They lend themselves to assessing the impact of broad-scale treatments and the evaluation of species viability across the forest. They provide habitat linkages and help address the need for corridors that are especially important for highly interactive and mobile species like mountain lions and black bears. WQAs feature the importance of wildlife and their habitat on the ASNFs and reflect the value the public places on them; this has been strongly reiterated by the public in their comments during the forest planning process. WQAs also provide a benchmark of wildlife behavior and opportunities for research.

Post 2011 Wallow Fire WQA Assessment

Five of the thirteen proposed WQAs in the ASNFs Draft Forest Plan (Alternative B) were impacted by this large fire to varying intensities. About one-third of the acreage in the Hidden Lake and Hulsey Bench WQAs and about one-half of Open Draw WQA burned at high intensity fire. Little of Middle Mountain and Upper Coyote WQAs burned at this level.

The WQAs in the fire area and across the ASNFs, were again evaluated in 2012 by ASNFs and AGFD biologists. The question asked was “Are the WQAs still needed or useful, especially given the 2011 Wallow Fire?” Following are the conclusions of this evaluation.

- ✓ Fire facilitates habitat renewal--not loss, especially in the fire adapted ecosystems of the Southwest. New habitat components or seral states in response to fire increase the diversity of both plants and animals so burned areas within WQAs will not be abandoned by wildlife.
- ✓ Wildlife will alter use to areas with less than optimum habitat conditions when human disturbance activities in adjacent higher quality habitats cause avoidance by those wildlife species. This has been demonstrated by AGFD research in the Hulsey Bench WQA even before the fire and it is expected to be the case in those WQAs where habitat has been affected by the fire.
- ✓ Because of the loss of or change in forested habitat structure (reduction in horizontal cover) across about one-fifth of the Forest due to the 2011 fire, WQAs will be that much more important as secure areas having limited human disturbance.
- ✓ In addition, the identified need of providing secure and unfragmented habitat across the Mogollon Rim and across the ASNFs landscape (especially the Sitgreaves side) has not changed.
- ✓ Public desire and support for some focus or emphasis on wildlife and their habitat on the ASNFs remains strong.

REFERENCES

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APPENDIX A.

Habitat Linkages

WQAs function as part of the larger wildlife need for habitat linkages and interconnected, safe habitat is critical to wildlife viability. Its corollary, habitat fragmentation, is becoming a greater concern every day with the level of human development that is occurring within Southwestern wildlife habitats. There are two components to this:

- Physical obstacles preventing or limiting wildlife movement or making it unsafe resulting in mortality of moving animals (at times unsafe for human vehicle travel as well).
- Lack of suitable movement linkages or corridors¹⁰ between habitats or between habitat components resulting in isolation (social, genetic, ability to reach food and water sources, and escape from predation and severe weather, etc.).

In 2004, Arizona Game and Fish Department initiated a collaborative effort along with nine other agencies to proactively address wildlife connectivity in Arizona. The Arizona Wildlife Linkages Workshops held around the State facilitated information sharing and gathering among agency personnel, tribes, businesses, and individuals regarding wildlife travelways and barriers. The objective is to inform federal, state and private undertakings about the need to facilitate wildlife movement, remove barriers, and provide or preserve known linkages during project planning. When undertakings incorporate wildlife needs, both animals and the public are safer and the persistence of those species across the landscape will help be assured for future generations.

In 2011, AZGFD in partnership with Coconino County and the Arizona Wildlife Linkages Workgroup provided a report entitled *The Coconino County Wildlife Connectivity Assessment: Report on Stakeholder Input* (March 2011). An equivalent effort is underway for Navajo and Apache Counties. The 2011 report identifies known linkages and barriers with maps and descriptions for different species. A similar report will be prepared for Navajo and Apache counties at a later date. ASNFs biologists attended linkage workshops and were involved in identifying linkages and barriers with AZGFD in 2010 and 2011.

Linkages among or interconnectivity of secure habitat across the ASNFs is the focus of Wildlife Quiet Areas. Ongoing Linkages collaborative efforts are consider part of the management approach for the ASNFs plan. The linkages reports will be useful for site specific planning of Forests projects such as siting of roads, fences, and other structures. They will inform large scale land treatments (thinning, wildland fire) described as objectives under ASNFs plan revision as well as cumulatively inform smaller scale projects. They will be invaluable in addressing the needs of wildlife across their entire habitat, regardless of land ownership.

¹⁰ Wildlife linkages or corridors are often used interchangeably.

APPENDIX B.

WILDLIFE QUIET AREAS

Summary of input from Arizona Game and Fish Dept.
(AZGFD, 2010)

Those responding: Dave Dorum, Dave Cagle, Mike Godwin, and Rick Langley based on public observation and input provided to AZGFD, unless otherwise noted.

- AZGFD strongly supports the WQAs (they partnered in designation of the original ones).
- Wildlife behavior changes notably in these areas, e.g., ungulates bedding down in the open during daylight (lack of stress).
- Many generations of wildlife have grown accustomed to using these areas.
- Wildlife numbers increase in even lesser quality habitat in the absence of motor vehicles (compensatory use) as demonstrated by current AZGFD research on the ASNFs.
- Many are located where there is extensive dispersed camping (both hunting and non hunting season), hence allowing area for wildlife freer from human encounters.
- Some encompass riparian zones providing water and quality habitat free from human disturbance.
- Some provide wintering habitat free from the additional stress of motorized encounters during this critical life cycle with habitat limitations.
- A portion of the hunting public is pleased with nonmotorized hunting opportunities and they report observing more bull elk and black bear in these areas.
- Input received by the Wildlife Managers from the public using the forest near WQAs is almost 100% supportive of the no motorized vehicle areas.
- Both non hunters and hunters are enthusiastic about the opportunities they afford for better wildlife viewing.
- Wildlife surveys can include WQAs but they are not individually nor systematically surveyed so data is not available to scientifically indicate greater use or numbers of wildlife within them.
- AZGFD has signs available to Districts for re-posting boundaries.

In addition, Jon Cooley, AZGFD Region I Manager, provided input and review to this report and Dannette Weiss, AZGFD Region I Habitat Specialist, provided information on habitat linkages.

APPENDIX C. WQA maps for Forest Plan Revision as follows:

Alternative A (current plan, special order WQAs)

Apache side

Sitgreaves side

Alternative B (proposed plan, WQAs as a management area)

Apache side

Sitgreaves side

Alternative C (WQAs as a management area)

Apache side

Sitgreaves side

Alternative D (WQAs as a management area)

Apache side

Sitgreaves side













